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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/510,031	12/09/2004	Yuko Tachibana	Q83945	4662

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EXAMINER

MAYO III, WILLIAM H

ART UNIT	PAPER NUMBER
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2831

DATE MAILED: 12/15/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/510,031

Applicant(s)

TACHIBAMA ET AL

Examiner

William H. Mayo III

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>October 1, 2004</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Priority

1. Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119(a)-(d). The certified copy has been filed in PCT Application No. PCT/JP03/04232, filed on April 2, 2003.

Information Disclosure Statement

2. The information disclosure statement filed October 1, 2004 has been submitted for consideration by the Office. It has been placed in the application file and the information referred to therein has been considered.

Specification

3. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

4. The abstract of the disclosure is objected to because it contains run on sentences, which is improper language for the abstract. The applicant is required to correct the run on sentences to provide the abstract with clarity. Correction is required. See MPEP § 608.01(b).

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1, 4, and 11-12 are rejected under 35 U.S.C. 102(b) as being anticipated by Asakura et al (Pat Num 5,808,260, herein referred to as Asakura). Asakura discloses a cable connection method (Figs 1-10) for connecting an end of a conductor (3a) of a cable (3) to the connecting face (A) of a contact member (2a) of a connector (2) such that the lengthwise direction of the connecting face (A) and the lengthwise direction of the conductor (3) are mutually matched in the connection (Fig 1). Specifically, with respect to claim 1, Asakura discloses a method wherein the cable (3) has an conductor end (3a) which is pressurized against said connecting face (A) by a pair of electrodes (6 & 7) mutually separated in the lengthwise direction (top to bottom) of said conductor (3a) and an electric current is passed between said pair of electrodes (6 & 7), welding said end of said cable (3a) and said connecting face (A) of the

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connector (2) together (Col 4, lines 45-62). With respect to claim 4, Asakura discloses that a part (3a) of the conductor (3) that comes into contact with the connecting face (A) of the contact (2) is formed as a flat surface and the part of the conductor (3) that comes into contact with the electrodes (6 & 7) is formed on as a flat surface (Fig 1). With respect to claim 11, Asakura discloses a cable welding device (6 & 7) for connecting an end of a conductor (3a) of a cable (3) to the connecting face (A) of a contact member (2a) of a connector (2) such that the lengthwise direction of the connecting face (A) and the lengthwise direction of the conductor (3) are mutually matched in the connection (Fig 1) comprising a base (not numbered) on which the connector (2) furnishing the contact (2a) is disposed, a pair of electrodes (6 & 7) mutually separated in the) lengthwise direction (top to bottom) of the conductor (2), pressure means (10) capable of pressing the pair of electrodes (6 & 7) to pressure the end (3a) of the conductor (3) against the connecting face (A) and a voltage applying means (23) capable of applying a voltage between the electrodes (6 & 7, Fig 1). With respect to claim 12, Asakura discloses a plurality of contacts (2a) and an end (3a) of the conductor (3) comprising a pair of electrodes (6 & 7) moving a position to enable the contacts (2a) to be welded and pressured (Col 4, lines 45-62).

7. Claims 13-17 are rejected under 35 U.S.C. 102(b) as being anticipated by Davis et al (Pat Num JP 07-153519, herein referred to as Davis). Davis discloses an electrical connector assembly for connecting a plurality of coaxial cables to a flat cable (purpose): Specifically, Davis discloses that a cable (1) comprising a connector (12) including a base (17) having a plurality of conductor contacts (13), a cable main body (6)

comprising a plurality of wire conductors (5) that connect to the plurality of contacts (13), wherein the wire conductors (5) and the contacts (13) are mutually and electrically welded (i.e. ultrasonic welded). With respect to claim 14, Davis discloses that the base (17) includes a flat plate having a front face and a rear face, wherein a plurality of strip first signal conductors (13) positioned at determined intervals along a y axial direction which is one direction parallel to the front face and disposed extending in the x axial direction that is the other direction parallel to said front face (Fig 2), a plurality of second signal contacts (16) disposed on the rear face and opposing the first signal contacts (13) such that the flat plate is interposed there between (Fig 1), and a plurality of ground contacts (23) disposed on the front face extending in the x axial direction and between the signal contacts (13), wherein a wire conductor (6) includes a first signal wire, a second signal wire (6) and a drain wire (9), wherein the first signal wire (6) is connected to the first signal contact (13), the second signal wire (16) connected to the second signal contact (16), and the drain wires (9) connected to the ground contact (23, Fig 4). With respect to claim 15, Davis discloses that the front face and the rear face comprise ground contacts (23) that are raised in a z direction orthogonal to the front face and extending in an x axial direction (Fig 1). With respect to claim 16, wherein a wire conductor (6) includes a first signal wire, a second signal wire (6) and a drain wire (9), wherein the first signal wire (6) is connected to the first signal contact (13), the second signal wire (16) connected to the second signal contact (16), and the drain wires (9) connected to the ground contact (23, Fig 4). With respect to claim 17, wherein a wire conductor (6) includes a first signal wire, a second signal wire (6) and a drain wire (9),

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wherein the first signal wire (6) is connected to the first signal contact (13), the second signal wire (16) connected to the second signal contact (16), and the drain wires (9) connected to the ground contact (23, Fig 4).

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

10. Claims 2, 5, 7, and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Asakura (Pat Num 5,808,260). Asakura discloses a cable connection method (Figs 1-10) for connecting an end of a conductor (3a) of a cable (3) to the connecting face (A) of a contact member (2a) of a connector (2) such that the lengthwise direction of the connecting face (A) and the lengthwise direction of the conductor (3) are mutually

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matched in the connection (Fig 1). Specifically, with respect to claim 2, Asakura disclose that the state of the welding is within the scope in which a depth at the top of the color change part forming the arc (bottom electrode) on the contact (2) is above a distance to the condition immediately prior to blasting the contact (2). With respect to claim 7, Asakura discloses a method wherein the cable (3) has an conductor end (3a) which is pressurized against said connecting face (A) by a pair of electrodes (6 & 7) mutually separated in the lengthwise direction (top to bottom) of said conductor (3a) and an electric current is passed between said pair of electrodes (6 & 7), welding said end of said cable (3a) and said connecting face (A) of the connector (2) together (Col 4, lines 45-62), wherein the state of the welding is within the scope in which a depth at the top of the color change part forming the arc (bottom electrode) on the contact (2) is above a distance to the condition immediately prior to blasting the contact (2). With respect to claim 4, Asakura discloses that a part (3a) of the conductor (3) that comes into contact with the connecting face (A) of the contact (2) is formed as a flat surface and the part of the conductor (3) that comes into contact with the electrodes (6 & 7) is formed on as a flat surface (Fig 1). With respect to claim 9, Asakura disclose that the state of the welding is within the scope in which a depth at the top of the color change part forming the arc (bottom electrode) on the contact (2) is above a distance to the condition immediately prior to blasting the contact (2).

However, Asakura doesn't necessarily disclose the distance being 0.1mm (claims 2 & 7).

With respect to claims 2 & 7, it would have been obvious to one having ordinary skill in the art of cables at the time the invention was made to modify the distance of Asakura to comprise the state of the welding is within the scope in which a depth at the top of the color change part forming the arc on the contact is above a distance of 0.1mm to the condition immediately prior to blasting the contact, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F. 2d 272, 205 USPQ 215 (CCPA 1980).

11. Claims 3, 6, 8, and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Asakura (Pat Num 5,808,260) in view of Japanese Patent (JP 60-50079, herein referred to as JP). Asakura discloses a cable connection method (Figs 1-10) for connecting an end of a conductor (3a) of a cable (3) to the connecting face (A) of a contact member (2a) of a connector (2) such that the lengthwise direction of the connecting face (A) and the lengthwise direction of the conductor (3) are mutually matched in the connection (Fig 1). Specifically, with respect to claim 3, Asakura disclose that the state of the welding is within the scope in which a depth at the top of the color change part forming the arc (bottom electrode) on the contact (2) is above a distance to the condition immediately prior to blasting the contact (2). With respect to claim 6, Asakura discloses that a part (3a) of the conductor (3) that comes into contact with the connecting face (A) of the contact (2) is formed as a flat surface and the part of the conductor (3) that comes into contact with the electrodes (6 & 7) is formed on as a flat surface (Fig 1). With respect to claim 8, Asakura discloses a method wherein the cable (3) has an conductor end (3a) which is pressurized against said connecting face

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(A) by a pair of electrodes (6 & 7) mutually separated in the lengthwise direction (top to bottom) of said conductor (3a) and an electric current is passed between said pair of electrodes (6 & 7), welding said end of said cable (3a) and said connecting face (A) of the connector (2) together (Col 4, lines 45-62), wherein the state of the welding is within the scope in which a depth at the top of the color change part forming the arc (bottom electrode) on the contact (2) is above a distance to the condition immediately prior to blasting the contact (2). With respect to claim 10, Asakura disclose that the state of the welding is within the scope in which a depth at the top of the color change part forming the arc (bottom electrode) on the contact (2) is above a distance to the condition immediately prior to blasting the contact (2).

However, Asakura doesn't specifically disclose the welding step comprising the dispersion of a layer of precious metal thinly covering the surface of the conductor of the cable (claims 3 & 8).

JP teaches a cable connection (Fig 1), wherein Au is utilized as a brazing filler metal to coat the conductor (1) to form an alloy layer, for the purpose of forming a strong soldering layer for bonding to another conductor (abstract).

With respect to claims 3 & 8, it would have been obvious to one having ordinary skill in the art of cables at the time the invention was made to modify the conductor wires of Asakura to comprise the AU solder layer configuration as taught by JP because JP teaches that such a configuration provides a strong soldering layer for bonding to another conductor (abstract).

Asakura also doesn't necessarily disclose the distance being 5 μm (claims 3 & 8).

With respect to claims 2 & 7, it would have been obvious to one having ordinary skill in the art of cables at the time the invention was made to modify the distance of Asakura to comprise the state of the welding is within the scope in which a depth at the top of the color change part forming the arc on the contact is above a distance of 5 μm to the condition immediately prior to blasting the contact, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F. 2d 272, 205 USPQ 215 (CCPA 1980).

Conclusion

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. They are Murakami et al (Pat Num 6,858,804), Maegawa (Pat Num 6,376,773), Warner et al (Pat Num 5,660,742), Sato (Pat Num 5,246,384), Hara (Pat Num 5,250,127), Tanaka (Pat Num 5,724,730), Ichikawa (Pat Num 5,780,774), and Goto (Pat Num 6,444,910), all of which disclose cable connections.

Communication

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to William H. Mayo III whose telephone number is (571)-272-1978. The examiner can normally be reached on M-F 8:30am-6:00 pm (alternate Fridays off).

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dean Reichard can be reached on (571) 272-2800 ext 31. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



William H. Mayo III
Primary Examiner
Art Unit 2831

WHM III
December 7, 2005